Amendments to the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. - 14.   (canceled)

15.   (previously presented)   A computer program product within a computer readable medium for combining first and second attribute sets each comprising at least one attribute and value pair by which a named attribute is assigned a value that comprises one of a end value and a further attribute set; the computer program product comprising:

   instructions arranged to control the operation of a computing apparatus running the program product to cause the apparatus to carry out a merge operation by applying to the first and second attribute sets, as items-to-be-merged supplied as data to the apparatus, a merge operator by which:

      where at least one of the items-to-be-merged is a said end value, the value of the merged items is the value of a predetermined one of the items-to-be-merged; and

      where both items-to-be-merged are attribute sets, the value of the merged items comprises:

         the attribute and value pairs, if any, of attributes that occur in only one of the items-to-be-merged, and

         attribute and value pairs for attributes, if any,

occurring in both items-to-be-merged with the value of
each such pair being the value resulting from the
application of the merge operator to the values of the
attribute appearing in each item-to-be-merged, the
merge operator being recursively applied as required
to merge the attribute values.

16.   (currently amended) A computer program product according to
claim 15, wherein where at least one said attribute is assigned
a value that is a reference to a said named attribute, the merge
operation comprises repeatedly carrying out the following steps
(a) and (b) in succession:

(a) recursively applying the merge operator until a
reference is encountered as a said item-to-be-merged; and

(b) de-referencing~~, so far as possible,~~ an encountered
reference ~~without use of items yet to be merged~~ by:

(i)   where the reference is to a named attribute to
which an end value or attribute set is assigned, copying
that value or set; and

(ii) where the reference is to the start of a chain of
two or more references each pointing to a respective named
attribute the value of which is the next reference in the
chain with the chain ending when a reference in the chain
points to a named attribute to which an end value or
attribute set is assigned, following the chain of
references and copying the end value or set at the end of
the chain.

17.   (canceled)

18.   (original)   A computer program product according to
claim 15, wherein where at least one conformance predicate is
associated with at least one of said first and second attribute
sets, the program product is arranged to cause the computing
apparatus, in carrying out the merge operation, to carry across
to the resulting set all the conformance predicates associated
with the first and second sets.

19.   (original)   A computer program product according to
claim 18, wherein the program product is arranged to cause the
computing apparatus to evaluate, following the merge operation,
the or each conformance predicate associated with the resultant
set.

20.   (original)   A computer program product according to
claim 15, wherein where a group of one or more identifiers is
associated with each of the first and second sets, the program
product is arranged to cause the computing apparatus, in
carrying out the said merge operation on the first and second
sets, to create a group of identifiers for the set produced by
the merge operation, this group comprising a unique identifier
for the set and the identifiers contained in the group of
identifiers of the first and second sets.

21. (original)   A computer program product according to claim 20, wherein the program product is arranged to cause the computing apparatus to test the provenance of one said set by comparing its associated group of identifiers with the group of identifiers of another said set, said one set being determined as being derived from said other set if all the identifiers of the group of identifiers associated with said other set are contained in the group of identifiers associated with said one set.

22. (original)   A computer program product according to claim 15, wherein where at least one said attribute is assigned a value that is a reference to a said named attribute and a group of one or more identifiers is associated with each set, the program product is arranged to cause the computing apparatus, in carrying out the said merge operation on the first and second sets: whenever a reference is resolved by copying a set, to associate a group of identifiers with the copy, this group comprising a new unique identifier for the copy and the identifiers of the group of identifiers of the set that has been copied; and to create a group of identifiers for the set produced by the merge operation, this group comprising a said unique identifier for the set and the identifiers contained in the group of identifiers of the first and second sets.

23. (original)   A computer program product according to claim 22, wherein the program product is arranged to cause the

computing apparatus to test the provenance of one said set by
comparing its associated group of identifiers with the group of
identifiers of another set, said one set being determined as
being derived from said other set if all the identifiers of the
group of identifiers associated with said other set are
contained in the group of identifiers associated with said one
set.

24. (original)   A computer program product according to
claim 15, wherein the program product is arranged to cause the
computing apparatus to carry out the merge operation in respect
of at least one further set in addition to the first and second
sets, the merge operation being effected first on said first and
second sets and then the resultant set being merged with a first
of the further sets, and the set so produced being merged with
any remaining further set in a recursive manner.

25. (original)   A computer program product according to
claim 15, wherein the first attribute set is a resource
description, the second attribute set being combined with the
resource description by the merge operator to set specific end
values for at least one of the attributes of the resource
description.

26. (original)   A computer program product according to
claim 15, wherein both the first and second attribute sets are
resource descriptions, these descriptions being combined by the

merge operator to form a resource description for a new resource
that includes the attributes of both the first and second
resource descriptions.

27. (previously presented)   Computer apparatus for combining
first and second attribute sets each comprising at least one
attribute and value pair by which a named attribute is assigned
a value that comprises one of a end value and a further
attribute set; the apparatus comprising a set merging
arrangement for carrying out a merge operation, the set merging
arrangement comprising: merge operator means for applying a
merge operator to items to be merged, and control means for
controlling the carrying out of said merge operation, the
control means being arranged to apply said first and second
attribute sets, as items to be merged, to the merge operator
means; the merge operator means comprising: first means
operative, where at least one of the items to be merged is a
said end value, to cause the value of the merged items to be the
value of a predetermined one of the said items to be merged; and
second means, operative where both items to be merged are
attribute sets, to cause the value of the merged items to
comprise: the attribute and value pairs, if any, of attributes
that occur in only one of the items-to-be-merged, and attribute
and value pairs for attributes, if any, occurring in both items
to be merged with the value of each such pair being the value
resulting from the application of the merge operator to the
values of the attribute appearing in each item to be merged, the
control means causing the merge operator to be recursively
applied by merge operator means as required to merge the

attribute values.